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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,274	10/13/2006	Yuichi Tsuji	71,051-022	6627
27305	7590	11/05/2010		
HOWARD & HOWARD ATTORNEYS PLLC				
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Royal Oak, MI 48067				
EXAMINER				
ZIMMER, MARC S				
ART UNIT		PAPER NUMBER		
1765				
MAIL DATE		DELIVERY MODE		
11/05/2010		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

## Application No.

10/553,274

## Applicant(s)

TSUJI ET AL.

## Examiner

MARC S. ZIMMER

## Art Unit

1765

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 9-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 9-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI.08)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 and 9-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Field et al., U.S. Patent # 4,515,884 in view of Priebe et al., U.S. Patent # 5,869,188 and also, Shudo et al., U.S. Patent Application Publication No. 2002/0146575 for the reasons outlined previously.

***Response to Arguments***

Applicant first contends at page 8 of their reply and again at paragraph 8 of the attached Declaration that Field doesn't actually refer to different cure systems but, rather, only different vulcanization methods. The Examiner respectfully disagrees as the skilled artisan associates RTV and HTV silicones with ones curable by a different mechanism. Whereas the category of silicones known as room temperature vulcanizable, or RTV, silicones is mentioned the vast majority of the time in connection with a condensation-curable polymer (almost to the extent that they are synonymous), the skilled artisan typically recognizes HTV silicone as being those cured by way of hydrosilylation or peroxide curing, particularly because these reactions require the input of thermal energy to proceed at a desirable rate. See, for instance, paragraph [0018] of Guo, US 2010/0151144 and column 4, lines 20-25 of U.S. Patent # 5,716,700.

The Examiner is convinced that Priebe and, before that, Badesha and Schlueter all serve to illustrate that the skilled artisan would have considered the replacement of the favored (favored by the authors of those references) polysiloxane system curable by a specified mechanism with another that cures by a different mechanism to have been obvious. This is all that was necessary to outline a *prima facie* case of obviousness in the Examiner's estimation.

Of course, Applicant has now furnished for the Examiner's consideration a teaching from a textbook indicating that condensation-curable polysiloxanes, insofar as it is difficult to fully isolate alcohol by-product and curing catalyst from them, are susceptible to reversion where catalyst-promoted attack of the polymer backbone by the residual alcohol occurs thereby leading to at least partial degradation of the polymer. The degree to which this occurs ostensibly depends on the amount of alcohol and catalyst left in the polymer product and there is no indication as to how much alcohol might have been present in the filled polymers disclosed by Field. In any case, the Examiner professes to being somewhat confused by the Applicants' approach for overcoming the stated rejection because the teaching supplied by them, which was drawn from a textbook that, by definition, is an accumulation of general concepts on a given topic familiar to the skilled artisan, reflects only that one of ordinary skill would have been further motivated to substitute a hydrosilylation curable polysiloxane elastomer composition for the condensation-curable type espoused by Field beyond the general suggestion offered by Priebe et al. Indeed, the textbook teaching does state that the aforementioned reversion reaction can take place if the polymer is heated in

confined spaces (where alcohol escape is precluded) and this would undoubtedly have implications for a polymer that is employed in the manufacture of a fuser roller that is going to be repeatedly subjected to high temperatures in excess of 180 degrees Celsius.

On page 10 of their response, Applicant asserts that Field even implies some recognition of this problem inasmuch as they disclose a maximum temperature of 385° F. The Examiner believes this point to be only speculative as this temperature is taught in the context of a test that is supposed to mimic the conditions to which the rubber would be subjected in the normal operation of a photocopier. There is, in fact, nothing in the disclosure that would lead the skilled artisan to believe that the test temperature was selected for any other reason than it was the temperature that the rubber would be heated to in its commercial capacity. Applicant continues by saying that the skilled artisan likely would not even have started with Field given the documented problems associated with condensation-curable silicones when the application entails exposing them to high temperatures. The Examiner respectfully disagrees as Field obviously contributed more to the prior art than merely the suggestion to use a condensation-curable silicone in the manufacture of a roller. As a matter of fact, it is not even the thermally-conductive rubber that Field regarded as their invention. The Examiner would only agree that it would have been improper to rely on Field in crafting a rejection if it had explicitly taught away from silicone elastomers cured by a different mechanism.

Finally, as to the allegation that the rejection of record is overcome by unexpected results evident from the experimental trials outline in Applicants'

Specification, the Examiner respectfully disagrees. The following summarizes the distinctions between the comparative trials and the trials that adhere to the claimed invention:

Trial No.	Distinction from Inventive Examples
Comparative Example 1	Has 25% less iron oxide than claimed minimum
Comparative Example 2	No iron oxide
Comparative Example 3	No cerium oxide
Comparative Example 4	No iron oxide or cerium oxide
Comparative Example 5	No alumina
Comparative Example 6	No iron oxide

The results of the comparative trials indicate that, as compared to the trials where all of the limitations of the claims are satisfied, the adhesion to aluminum is diminished after the compositions are aged at 230° C for lengthy periods of time. (Comparative trials 3 and 6 are odd in that the degree of adhesiveness is actually improved over initial adhesion after 170 hours exposure to 230° C temperatures but these are regarded as anomalous results and not really integral to this analysis.) The trials collectively show that, where any of the iron oxide, alumina, or cerium oxide are excluded, the adherence of the elastomer to alumina is lessened but, of course, Field anticipates the presence and claimed quantities of iron oxide and alumina and, thus, the only parameter on which the Applicant may rely to establish an unexpected result is the presence of cerium oxide. However, cerium oxide is a well-known heat stabilizer. The

loss of adhesion can only be explained by the polymer host becoming somewhat degraded by the heat exposure over time and cerium oxide, as a heat stabilizer, would serve to slow or halt polymer degradation thus it is unsurprising that its addition yields improvements in the stability of the polymer and, by extension, its adhesion to aluminum.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **MARC S. ZIMMER** whose telephone number is (571)272-1096. The examiner can normally be reached on Monday-Friday 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jim Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

November 3, 2010

/Marc S. Zimmer/  
Primary Examiner, Art Unit 1765